

What is claimed is:

1. An image forming apparatus comprising:
an image carrier;

developing means for developing a latent image formed on said image carrier by depositing a toner to thereby form a corresponding toner image;

image transferring means for forming an electric field between said image carrier and a subject body of image transfer to thereby transfer the toner image from said image carrier to said subject body;

cleaning means using a bladeless system for removing a residual toner left on said image carrier after image transfer without scraping off said residual toner with a blade member; and

a flexible member affixed at one edge portion and having a flat surface formed with a plurality of grooves at the other edge portion, said plurality of grooves each extending over an image forming range of a surface of said image carrier perpendicularly to a direction in which said surface of said image carrier is movable;

wherein said flexible member is positioned such that said flat surface contacts the surface of said image carrier with said flexible member being deformed.

2. The apparatus as claimed in claim 1, wherein said flexible member comprises a sheet member formed of

polyethylene terephthalate.

3. The apparatus as claimed in claim 2, wherein said sheet member is positioned such that said flat portion contacts the surface of said image carrier with a pressure of 0.1 N or above, but 0.8 N or below.

4. The apparatus as claimed in claim 3, wherein said flat portion has a surface roughness Rz of 20 or above, but 40 or below.

5. The apparatus as claimed in claim 3, wherein said sheet member has a thickness of 0.1 mm or above, but 0.2 mm or below.

6. The apparatus as claimed in claim 3, wherein said sheet member is positioned such that an angle between said flat surface of said sheet member in the absence of said image carrier and a line tangential to the surface of said image carrier and crossing said flat surface when said image carrier is present is between 20° and 100°.

7. The apparatus as claimed in claim 1, wherein the toner has a mean circularity of 0.93 or above.

8. The apparatus as claimed in claim 1, further comprising a process cartridge removably mounted to a body of said apparatus and comprising at least said image carrier and said flexible member.

9. In a process cartridge removably mounted to a body of an image forming apparatus comprising:

an image carrier;

developing means for developing a latent image formed on said image carrier by depositing a toner to thereby form a corresponding toner image;

image transferring means for forming an electric field between said image carrier and a subject body of image transfer to thereby transfer the toner image from said image carrier to said subject body;

cleaning means using a bladeless system for removing a residual toner left on said image carrier after image transfer without scraping off said residual toner with a blade member; and

a flexible member affixed at one edge portion and having a flat surface formed with a plurality of grooves at the other edge portion, wherein said plurality of grooves each extend over an image forming range of a surface of said image carrier perpendicularly to a direction in which said surface of said image carrier is movable, and said flexible member is positioned such that said flat surface contacts the surface of said image carrier with said flexible member being deformed;

at last said image carrier and said flexible member are constructed integrally with each other.

10. In an image forming apparatus for causing a charging member, applied with a charge bias of preselected

polarity, to uniformly charge a surface of an image carrier in contact with or in the vicinity of said surface to thereby form a latent image, developing said latent image with toner to thereby produce a corresponding toner image, and electrostatically transferring said toner image to a recording medium, temporary holding means is provided for causing a brush member, which contacts said surface of said image carrier with bristles, to collect, among residual toner grains left on said surface after transfer of the toner image, toner grains of opposite polarity opposite to said preselected polarity from said surface when applied with a hold bias of a same polarity as said preselected polarity and release said toner grains of opposite polarity to said surface at a preselected timing when applied with a release bias of polarity opposite to said preselected polarity, and said surface and said bristles contact each other under a pressure of 40 g/cm^2 or above.

11. The apparatus as claimed in claim 10, wherein the pressure is 50 g/cm^2 or above.

12. The apparatus as claimed in claim 11, wherein the pressure is 60 g/cm^2 or below.

13. The apparatus as claimed in claim 10, wherein the bristles have loop-like tips.

14. The apparatus as claimed in claim 10, wherein

the bristles are coated with urethane.

15. The apparatus as claimed in claim 10, a process cartridge is removably mounted to a body of said apparatus and comprises at least said image carrier and said brush member.

16. In a process cartridge removably mounted to a body of an image forming apparatus configured to cause a charging member, applied with a charge bias of preselected polarity, to uniformly charge a surface of an image carrier in contact with or in the vicinity of said surface to thereby form a latent image, develop said latent image with toner to thereby produce a corresponding toner image, and electrostatically transfer said toner image to a recording medium, said image forming apparatus comprising temporary holding means for causing a brush member, which contacts said surface of said image carrier with bristles, to collect, among residual toner grains left on said surface after transfer of the toner image, toner grains of opposite polarity opposite to said preselected polarity from said surface when applied with a hold bias of a same polarity as said preselected polarity and release said toner grains of opposite polarity to said surface at a preselected timing when applied with a release bias of polarity opposite to said preselected polarity, said surface and said bristles contacting each other under a pressure of

40 g/cm² or above, at least said image carrier and said brush member are constructed integrally with each other.